

IMPLEMENTATION ACTION STEPS*for the* WAKE FOREST OPEN SPACE AND GREENWAY PLAN

#	Task	Lead Department	Support Department	Details	Phase	Reference
1	Complete design and construction of the Dunn Creek Greenway trail, from the NC98 Bypass to the Smith Creek Soccer Complex	Parks & Recreation	Planning Department + Engineering	The Town has targeted this section along the Dunn Creek tributary of Smith Creek for the construction of its next trail. The segment extends north from the Smith Creek Soccer Center to the NC 98 by-pass, where the Town and DOT have already installed a pedestrian culvert.	Phase One (2010)	Cut-sheet # 3
2	Extend the Smith Creek Greenway trail south to connect to Thornrose, Dansforth, Sanford Creek trail and Heritage elementary, middle, and high schools.	Planning Department	Parks & Recreation and Engineering	With Safe Routes to School (SRTS) funds, and an equivalent Town match in funds, this trail could produce a safe transportation route for hundreds of students living in Dansforth, Thornrose, Heritage South, and Heritage Wake Forest. Safe access needs to be provided along, across, and underneath Rogers Road. An at-grade crossing is located at the signalized intersection of Rogers Road and Franklin Street. An underpass needs to be provided when the Rogers Road bridge over Smith Creek is reconstructed. The future bridge must also accommodate bicyclists and pedestrians over the bridge.	Phase One (2011)	Cut-sheet # 4
3	Propose a bond fund to complete the Wake Forest's portions of the Greenway Loop.	Planning Department	Parks & Recreation and Engineering	Eighty-five percent of people who filled out comment forms related to this Plan Update said they would support such a measure. Calculate cost-estimates from this plan and the 2008 Bicycle Plan to determine total required funding. Also consider funding <i>all</i> phase one and phase two projects in a single bond measure.	Phase One (Begin 2009)	Map 3A, page 3-10
4	Complete design and construction of the Dunn Creek Greenway trail, from the NC 98 Bypass to Oak Grove Church Road.	Planning Department	Parks & Recreation and Engineering	This section is the logical next step, continuing the trail from the NC 98 Bypass, and connecting to the proposed Wait Avenue bicycle lanes and sidewalks to downtown. If continued trail construction to Flaherty Park is not expected to be immediate, then provide a trailhead at Oak Grove Church Road to 'anchor' the end of the trail in the short term.	Phase One (2012)	Cut-sheet # 2
5	Complete design and construction of the Dunn Creek Greenway trail, from Oak Grove Church Road to Flaherty Park.	Planning Department	Parks & Recreation and Engineering	This section connects from Oak Grove Church Road to Flaherty Park, completing a trail all the way to the Smith Creek Soccer Complex, and (depending on the status of the Rogers Road bridge improvements) to Heritage High School.	Phase One (2013)	Cut-sheet # 1
6	Develop bicycle and trail signage and wayfinding system.	Planning Department	Parks & Recreation and Engineering	A wayfinding system is recommended only after completing several key bicycle and pedestrian projects, otherwise the system would need an immediate update. After completion of the above trail segments (along with progress from the implementation of the 2008 Bicycle Plan), a wayfinding system should be designed that is flexible enough to make updates as new projects are completed.	Phase One (2013)	Appendix B
7	Complete design and construction of the Smith Creek Greenway trail, from Sanford Creek to Ligon Mill Road.	Planning Department	Parks & Recreation and Engineering	By completing the northern portions of the Smith Creek and Dunn Creek Greenway trails, this remaining portion will be 'book-ended' with Raleigh's Neuse River Trail, creating popular demand and political pressure to complete this section. Work with Wake County and landowners to acquire greenway easements on the two remaining parcels necessary for corridor connectivity (near the Margaret's pond and Dansforth subdivisions).	Phase One (2014)	Cut-sheet # 5
8	Complete design and construction of the Smith Creek Greenway trail, from Ligon Mill Road to Burlington Mill Road.	Planning Department	Parks & Recreation and Engineering	This would be the final link connecting Downtown Wake Forest to the Neuse River Trail (which doubles as the North Carolina Mountains-to-Sea Trail and connects to the entire City of Raleigh greenway system). Work with Wake County to acquire a greenway easement from the owner/developer of the one remaining parcel necessary for corridor connectivity.	Phase One (2015)	Cut-sheet # 6
9	Complete design and construction of the Richland Creek Greenway trail, from Harris Road to Stadium Drive.	Planning Department	Parks & Recreation and Engineering	This portion of the Richland Creek Greenway is a top priority for the corridor because it would use existing public open space to connect the Olde Mill Stream Greenway to the proposed trails of Joyner Park and Wake Forest-Rolesville High School. Proposed bicycle lanes and sidewalks (from the 2006 Pedestrian Plan and the 2008 Bicycle Plan) would connect the southernmost portion of this trail segment to Downtown Wake Forest.	Phase Two (2016)	Cut-sheet # 8
10	Complete design and construction of the Sanford Creek Greenway trail, from the Smith Creek Greenway to Marshall Farm Road.	Planning Department	Parks & Recreation and Engineering	This portion of the Sanford Creek Greenway would connect the Smith and Dunn Creek Greenways to the existing portions of the Sanford Creek Greenway. The redesign and reconstruction of Forestville Road should monitored closely for inclusion of bicycle and pedestrian accommodations to connect the trail across the roadway. An underpass is recommended, per Town policy.	Phase Two (2017)	Cut-sheet # 11
11	Complete construction of the Sanford Creek Greenway trail, from the west end of the existing boardwalk on Sanford Creek Greenway to Rogers Road.	Planning Department	Parks & Recreation and Engineering	This portion of the Sanford Creek Greenway would eventually connect the Wake Forest Greenway system to the Rolesville Greenway system. The redesign and reconstruction of Rogers Road should monitored closely for inclusion of bicycle and pedestrian accommodations to connect the trail across the roadway. An underpass is recommended, per Town policy.	(under construction)	Page 4-4
12	Complete design and construction of the Richland Creek Greenway trail, from Stadium Drive to the Bennett Park Neighborhood.	Planning Department	Parks & Recreation and Engineering	This is the next logical step for the Richland Creek Greenway, as it would build off of the above recommendation, extending the trail to a network of subdivisions just southwest of Downtown Wake Forest.	Phase Two (2018)	Cut-sheet # 9
13	Complete design and construction of the Richland Creek Greenway trail, from the Bennett Park Neighborhood to the Villas at Caveness Farms (US-1/Capital Blvd)	Planning Department	Parks & Recreation and Engineering	This section of the Richland Creek Greenway would be completed towards the end of phase one to allow more time for coordination with the City of Raleigh and NCDOT in either providing an underpass for the trail at US-1/Capital Blvd (as recommended) or at a minimum, providing pedestrian accommodations at the intersection of US-1/Capital Blvd and the NC 98 Bypass.	Phase Two (2019)	Cut-sheet # 10
14	Complete design and construction of the Richland Creek Greenway trail, from the north end of the Olde Mill Stream Greenway to the Wake Forest Town Limits.	Planning Department	Parks & Recreation and Engineering	Although this portion of the Richland Creek Greenway is recommended last, it should be moved up in priority if any other sections are held up for any reason. The public open space along the sewer corridor in this section would connect to the existing Olde Mill Stream Greenway.	Phase Two (2020)	Cut-sheet # 7
15	Update the 2009 Plan	Planning Department	Parks & Recreation and Engineering	After ten years (2010-2020), this plan should be thoroughly evaluated and updated according to progress made on implementation. A key step would be developing thorough recommendations for Phase Three projects.	Phase Three (2020)	-

COST ESTIMATE FOR CUT SHEET

1

DUNN CREEK CORRIDOR

(From Flaherty Park to Oak Grove Church Road)

Map Key

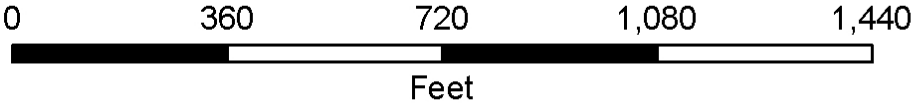
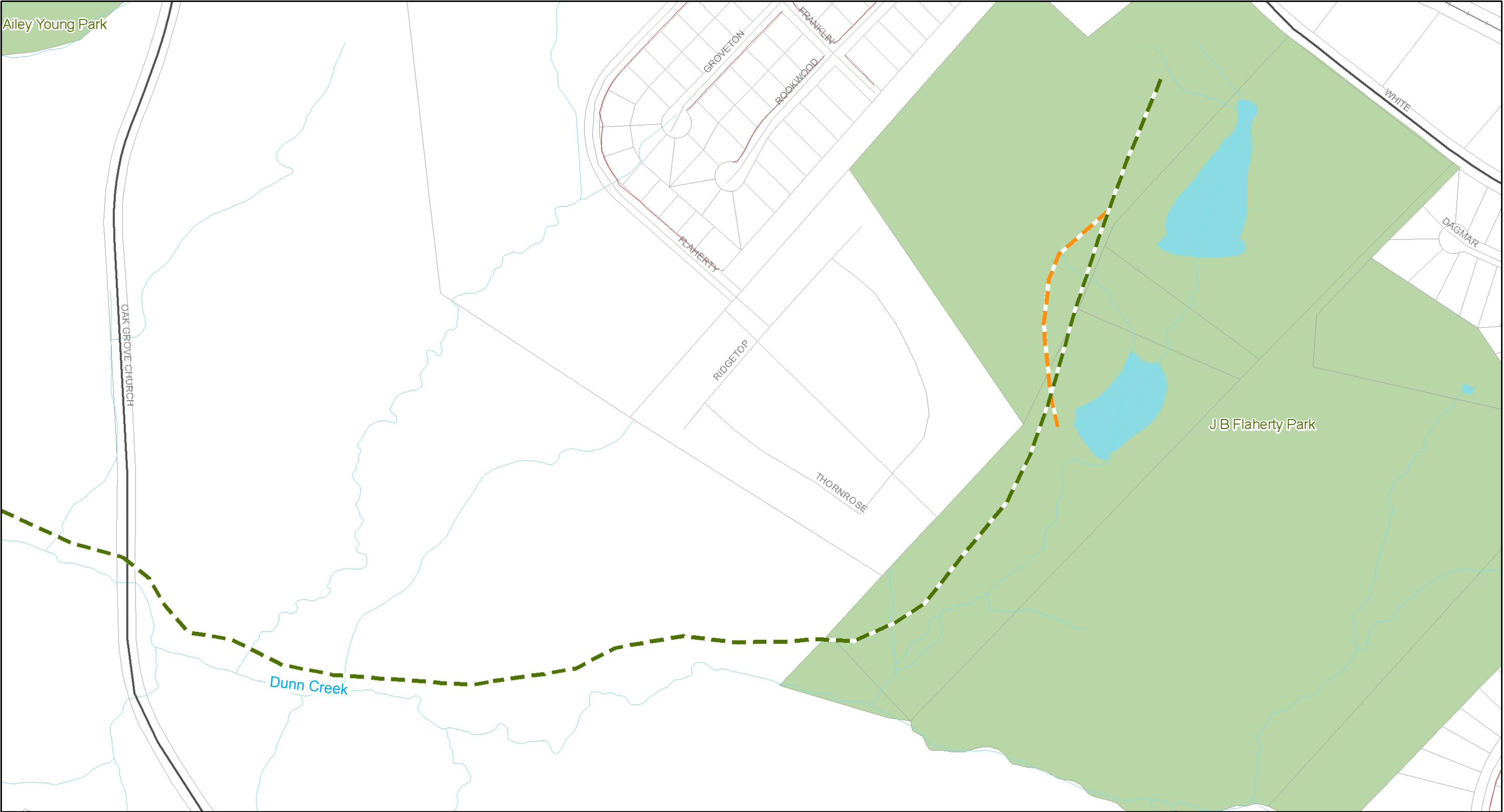
A	Demolition	Quantity	Cost	Unit	Subtotal
A1	Clearing and grubbing understory (20' wide)	0	\$0.25	sf	\$0.00
A2	Dumping Fees @ 6% of Demolition total			6%	\$0.00
				Subtotal	\$0.00
	Site Development	Quantity	Cost	Unit	Subtotal
B	Off-Road Facility (6,335 lf)				
B1	Temporary tree protection/silt fence (both sides)	9,600	\$2.00	lf	\$19,200.00
B2	Trail grading (0-5 cu ft/lf)	4,800	\$3.30	lf	\$15,840.00
B3	10' wide multi-use asphalt trail	4,800	\$50.00	lf	\$240,000.00
B4	2' wide gravel shoulder (both sides)	9,600	\$6.60	lf	\$63,360.00
B5	Wooden or recycled synthetic material boardwalk	0	\$250.00	lf	\$0.00
B6	Small Bike/Ped Bridge	0	\$1,350.00	lf	\$0.00
B7	Drainage culvert (36" reinforced concrete pipe)	0	\$44.00	lf	\$0.00
B8	Seeding or mulching trail edges (5' both sides)	48,000	\$0.13	sf	\$6,240.00
B9	Geotextile fabric	4,800	\$1.50	lf	\$7,200.00
C	On-Road Facility				
C1	Crosswalk: Striping (High Visibility Paint)	0	\$1.60	lf	\$0.00
C2	Crosswalk: Striping (High Visibility Thermo)	0	\$4.80	lf	\$0.00
C3	Ped-activated overhead warning lights	0	Unknown	ea	\$0.00
C4	Median pedestrian refuge island	0	Unknown	ea	\$0.00
D	Utilities				
D1	Solar powered light	0	\$5,900.00	ea	\$0.00
D2	Solar powered light pole	0	\$1,420.00	ea	\$0.00
D3	Emergency phones	0	\$2,730.00	ea	\$0.00
E	Signage				
E1	Mile Markers	1	\$220.00	ea	\$220.00
E2	Trail and street regulatory/warning signs	0	\$220.00	ea	\$0.00
E3	Directional signs	1	\$220.00	ea	\$220.00
E4	Educational signs	0	\$330.00	ea	\$0.00
F	Site Amenities				
F1	Benches (2 per mile recommended)	2	\$900.00	ea	\$1,800.00
F2	Bicycle rack (at trailheads)	1	\$225.00	ea	\$225.00
F3	Drinking fountains, with pet fountain (1/mile)	1	\$2,000.00	ea	\$2,000.00
F4	Picnic tables/ tables (at trailheads)	1	\$550.00	ea	\$550.00
F5	Trash receptacles (32-gallon, steel)(at trailheads)	1	\$300.00	ea	\$300.00
F6	Bollards (2 per trail/road intersection)	2	\$600.00	ea	\$1,200.00
F7	Parking (10-car lot)(at trailheads)	1	\$22,000.00	ea	\$22,000.00
F8	Parking (20-car lot)(at trailheads)	0	\$55,000.00	ea	\$0.00
				Subtotal	\$380,355.00
G	Design	Quantity	Cost	Unit	Subtotal
G1	Wetlands Deliniation	4,800	\$1.00	lf	\$4,800.00
G2	Geotechnical Testing	4,800	\$3.00	lf	\$14,400.00
G3	Construction Documents @ 12 % of Dev. Cost			12%	\$45,642.60
				Subtotal	\$64,842.60
	Subtotals				
A	Demolition				\$0.00
B	Off-Road Facility				\$351,840.00
C	On-Road Facility				\$0.00
D	Utilities				\$0.00
E	Signage				\$440.00
F	Site Amenities				\$28,075.00
G	Design				\$64,842.60
	SUBTOTAL				\$445,197.60
	Contingency (15% of total)			15%	\$66,779.64
	TOTAL				\$511,977.24

Note: Does not include the following: land acquisition, potential rock and unsuitable soils excavation, permitting fees, mobilization, and taxes.














CUT SHEET

1

DUNN CREEK CORRIDOR (From Flaherty Park to Oak Grove Church Road)



 Site Development Item (See map key column in cost estimate table)

- | | | |
|---|--|---|
|  Existing Ped. Underpass |  Major Road |  Water Body |
|  Cut-sheet Trail Segment |  Local Road |  Park/Open Space |
|  Existing Greenway Trail |  Railroad |  School |
|  Existing Sidewalks |  Hydrology |  Parcels |
|  Other Proposed Trails | | |

COST ESTIMATE FOR CUT SHEET

2

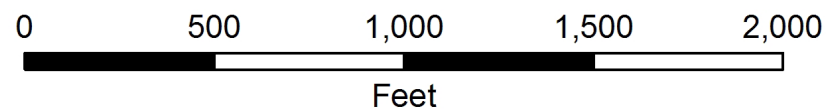
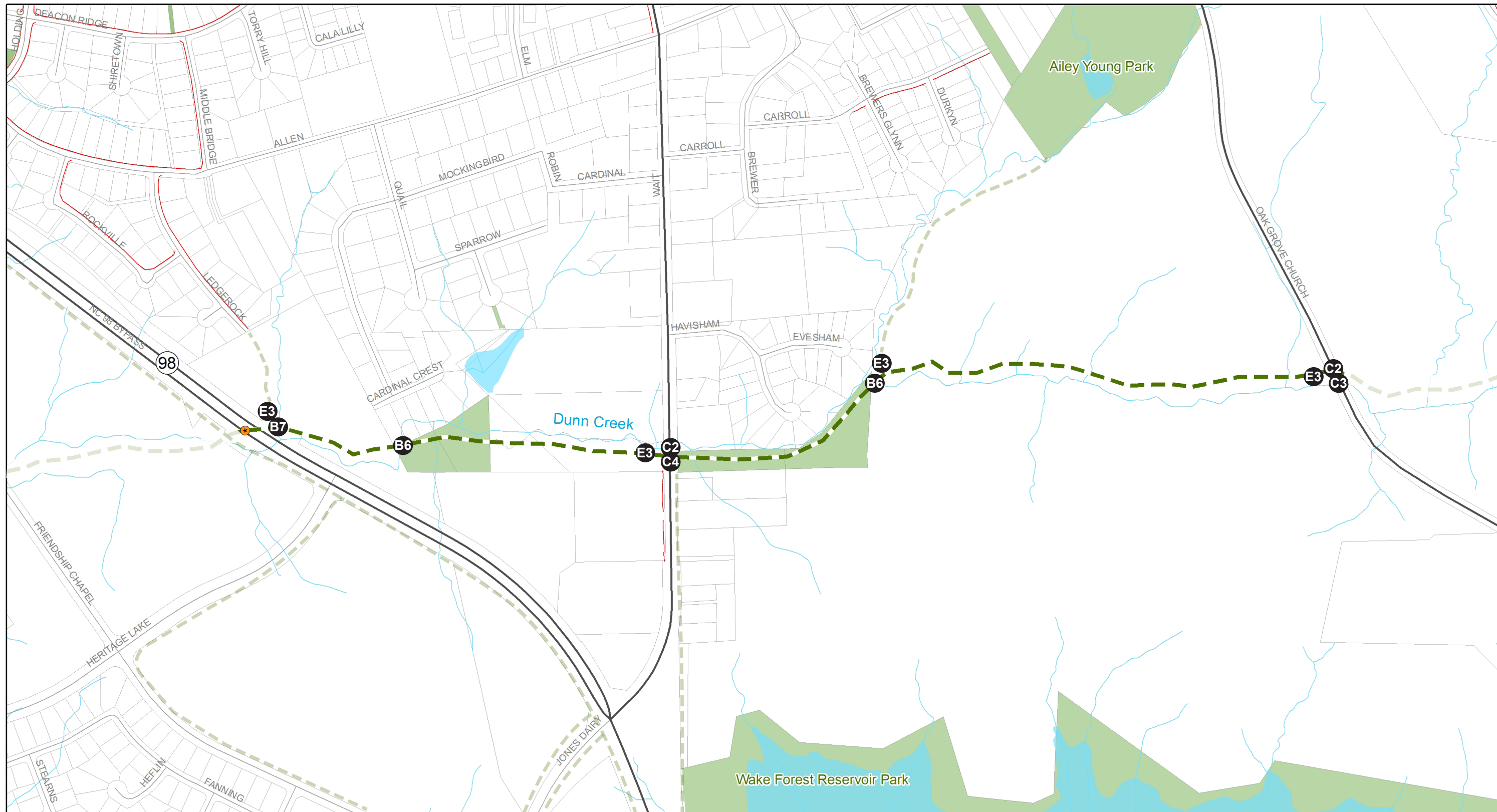
DUNN CREEK CORRIDOR

(From Oak Grove Church Road to NC 98 Bypass)

Map Key

A	Demolition	Quantity	Cost	Unit	Subtotal
A1	Clearing and grubbing understory (20' wide)	0	\$0.25	sf	\$0.00
A2	Dumping Fees @ 6% of Demolition total			6%	\$0.00
				Subtotal	\$0.00
	Site Development	Quantity	Cost	Unit	Subtotal
B	Off-Road Facility (6,335 lf)				
B1	Temporary tree protection/silt fence (both sides)	12,000	\$2.00	lf	\$24,000.00
B2	Trail grading (0-5 cu ft/lf)	6,000	\$3.30	lf	\$19,800.00
B3	10' wide multi-use asphalt trail	6,000	\$50.00	lf	\$300,000.00
B4	2' wide gravel shoulder (both sides)	12,000	\$6.60	lf	\$79,200.00
B5	Wooden or recycled synthetic material boardwalk	0	\$250.00	lf	\$0.00
B6	Small Bike/Ped Bridge (2)	40	\$1,350.00	lf	\$54,000.00
B7	Drainage culvert (36" reinforced concrete pipe)	15	\$44.00	lf	\$660.00
B8	Seeding or mulching trail edges (5' both sides)	60,000	\$0.13	sf	\$7,800.00
B9	Geotextile fabric	6,000	\$1.50	lf	\$9,000.00
C	On-Road Facility				
C1	Crosswalk: Striping (High Visibility Paint)	0	\$1.60	lf	\$0.00
C2	Crosswalk: Striping (High Visibility Thermo)	48	\$4.80	lf	\$230.40
C3	Ped-activated overhead warning lights	1	Unknown	ea	\$0.00
C4	Median pedestrian refuge island	1	Unknown	ea	\$0.00
D	Utilities				
D1	Solar powered light	0	\$5,900.00	ea	\$0.00
D2	Solar powered light pole	0	\$1,420.00	ea	\$0.00
D3	Emergency phones	0	\$2,730.00	ea	\$0.00
E	Signage				
E1	Mile Markers	2	\$220.00	ea	\$440.00
E2	Trail and street regulatory/warning signs	7	\$220.00	ea	\$1,540.00
E3	Directional signs	4	\$220.00	ea	\$880.00
E4	Educational signs	0	\$330.00	ea	\$0.00
F	Site Amenities				
F1	Benches (2 per mile recommended)	2	\$900.00	ea	\$1,800.00
F2	Bicycle rack (at trailheads)	0	\$225.00	ea	\$0.00
F3	Drinking fountains, with pet fountain (1/mile)	1	\$2,000.00	ea	\$2,000.00
F4	Picnic tables/ tables (at trailheads)	0	\$550.00	ea	\$0.00
F5	Trash receptacles (32-gallon, steel)(at trailheads)	0	\$300.00	ea	\$0.00
F6	Bollards (2 per trail/road intersection)	4	\$600.00	ea	\$2,400.00
F7	Parking (10-car lot)(at trailheads)	0	\$22,000.00	ea	\$0.00
F8	Parking (20-car lot)(at trailheads)	0	\$55,000.00	ea	\$0.00
				Subtotal	\$503,750.40
G	Design	Quantity	Cost	Unit	Subtotal
G1	Wetlands Deliniation	6,000	\$1.00	lf	\$6,000.00
G2	Geotechnical Testing	6,000	\$3.00	lf	\$18,000.00
G3	Construction Documents @ 12 % of Dev. Cost			12%	\$60,450.05
				Subtotal	\$84,450.05
	Subtotals				
A	Demolition				\$0.00
B	Off-Road Facility				\$494,460.00
C	On-Road Facility				\$230.40
D	Utilities				\$0.00
E	Signage				\$2,860.00
F	Site Amenities				\$6,200.00
G	Design				\$84,450.05
	SUBTOTAL				\$588,200.45
	Contingency (15% of total)			15%	\$88,230.07
	TOTAL				\$676,430.52

Note: Total does not include land acquisition, potential rock and unsuitable soils excavation, permitting fees, mobilization, taxes, or any other item not listed above.



A1 Site Development Item (See map key column in cost estimate table)

- | | | |
|-------------------------|------------|-----------------|
| Existing Ped. Underpass | Major Road | Water Body |
| Cut-Sheet Trail Segment | Local Road | Park/Open Space |
| Existing Greenway Trail | Railroad | School |
| Existing Sidewalks | Hydrology | Parcels |
| Other Proposed Trails | | |

COST ESTIMATE FOR CUT SHEET

3

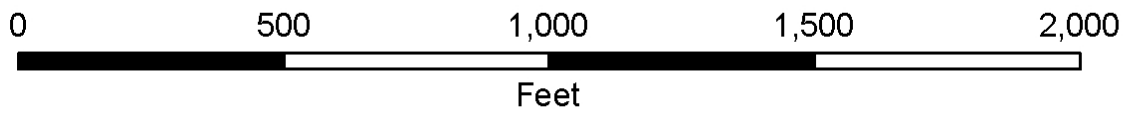
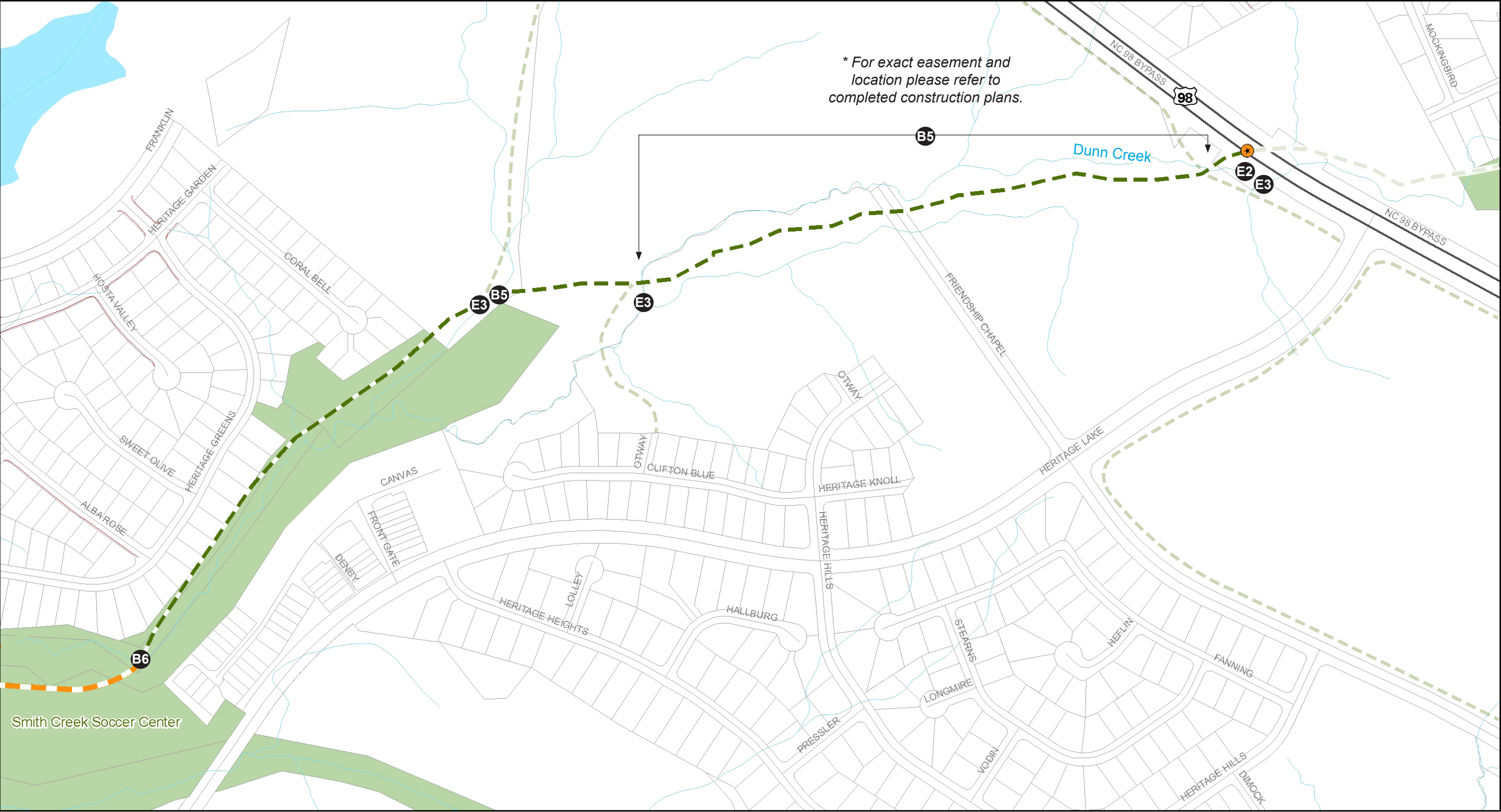
DUNN CREEK CORRIDOR

(From NC 98 Bypass to the Smith Creek Soccer Complex)

Map Key

A	Demolition	Quantity	Cost	Unit	Subtotal
A1	Clearing and grubbing understory (20' wide)	0	\$0.25	sf	\$0.00
A2	Dumping Fees @ 6% of Demolition total			6%	\$0.00
				Subtotal	\$0.00
	Site Development	Quantity	Cost	Unit	Subtotal
B	Off-Road Facility (6,335 lf)				
B1	Temporary tree protection/silt fence (both sides)	4,850	\$2.00	lf	\$9,700.00
B2	Trail grading (0-5 cu ft/lf)	2,425	\$3.30	lf	\$8,002.50
B3	10' wide multi-use asphalt trail	2,425	\$50.00	lf	\$121,250.00
B4	2' wide gravel shoulder (both sides)	4,850	\$6.60	lf	\$32,010.00
B5	Wooden or recycled synthetic material boardwalk	2,425	\$250.00	lf	\$606,250.00
B6	Small Bike/Ped Bridge (1)	30	\$1,350.00	lf	\$40,500.00
B7	Drainage culvert (36" reinforced concrete pipe)	0	\$44.00	lf	\$0.00
B8	Seeding or mulching trail edges (5' both sides)	24,250	\$0.13	sf	\$3,152.50
B9	Geotextile fabric	2,425	\$1.50	lf	\$3,637.50
C	On-Road Facility				
C1	Crosswalk: Striping (High Visibility Paint)	0	\$1.60	lf	\$0.00
C2	Crosswalk: Striping (High Visibility Thermo)	0	\$4.80	lf	\$0.00
C3	Ped-activated overhead warning lights	0	Unknown	ea	\$0.00
C4	Median pedestrian refuge island	0	Unknown	ea	\$0.00
D	Utilities				
D1	Solar powered light	0	\$5,900.00	ea	\$0.00
D2	Solar powered light pole	0	\$1,420.00	ea	\$0.00
D3	Emergency phones	0	\$2,730.00	ea	\$0.00
E	Signage				
E1	Mile Markers	1	\$220.00	ea	\$220.00
E2	Trail and street regulatory/warning signs	1	\$220.00	ea	\$220.00
E3	Directional signs	3	\$220.00	ea	\$660.00
E4	Educational signs	1	\$330.00	ea	\$330.00
F	Site Amenities				
F1	Benches (2 per mile recommended)	2	\$900.00	ea	\$1,800.00
F2	Bicycle rack (at trailheads)	0	\$225.00	ea	\$0.00
F3	Drinking fountains, with pet fountain (1/mile)	1	\$2,000.00	ea	\$2,000.00
F4	Picnic tables/ tables (at trailheads)	0	\$550.00	ea	\$0.00
F5	Trash receptacles (32-gallon, steel)(at trailheads)	0	\$300.00	ea	\$0.00
F6	Bollards (2 per trail/road intersection)	0	\$600.00	ea	\$0.00
F7	Parking (10-car lot)(at trailheads)	0	\$22,000.00	ea	\$0.00
F8	Parking (20-car lot)(at trailheads)	0	\$55,000.00	ea	\$0.00
				Subtotal	\$829,732.50
G	Design	Quantity	Cost	Unit	Subtotal
G1	Wetlands Deliniation	2,425	\$1.00	lf	\$2,425.00
G2	Geotechnical Testing	2,425	\$3.00	lf	\$7,275.00
G3	Construction Documents @ 12 % of Dev. Cost			12%	\$99,567.90
				Subtotal	\$109,267.90
	Subtotals				
A	Demolition				\$0.00
B	Off-Road Facility				\$824,502.50
C	On-Road Facility				\$0.00
D	Utilities				\$0.00
E	Signage				\$1,430.00
F	Site Amenities				\$3,800.00
G	Design				\$109,267.90
	SUBTOTAL				\$939,000.40
	Contingency (15% of total)			15%	\$140,850.06
	TOTAL				\$1,079,850.46

Note: Does not include the following: land acquisition, potential rock and unsuitable soils excavation, permitting fees, mobilization, and taxes.



A1 Site Development Item (See map key column in cost estimate table)

- | | | |
|-------------------------|------------|-----------------|
| Existing Ped. Underpass | Major Road | Water Body |
| Cut-sheet Trail Segment | Local Road | Park/Open Space |
| Existing Greenway Trail | Railroad | School |
| Existing Sidewalks | Hydrology | Parcels |
| Other Proposed Trails | | |

COST ESTIMATE FOR CUT SHEET

4

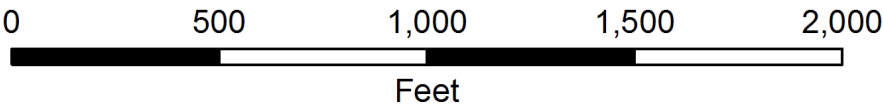
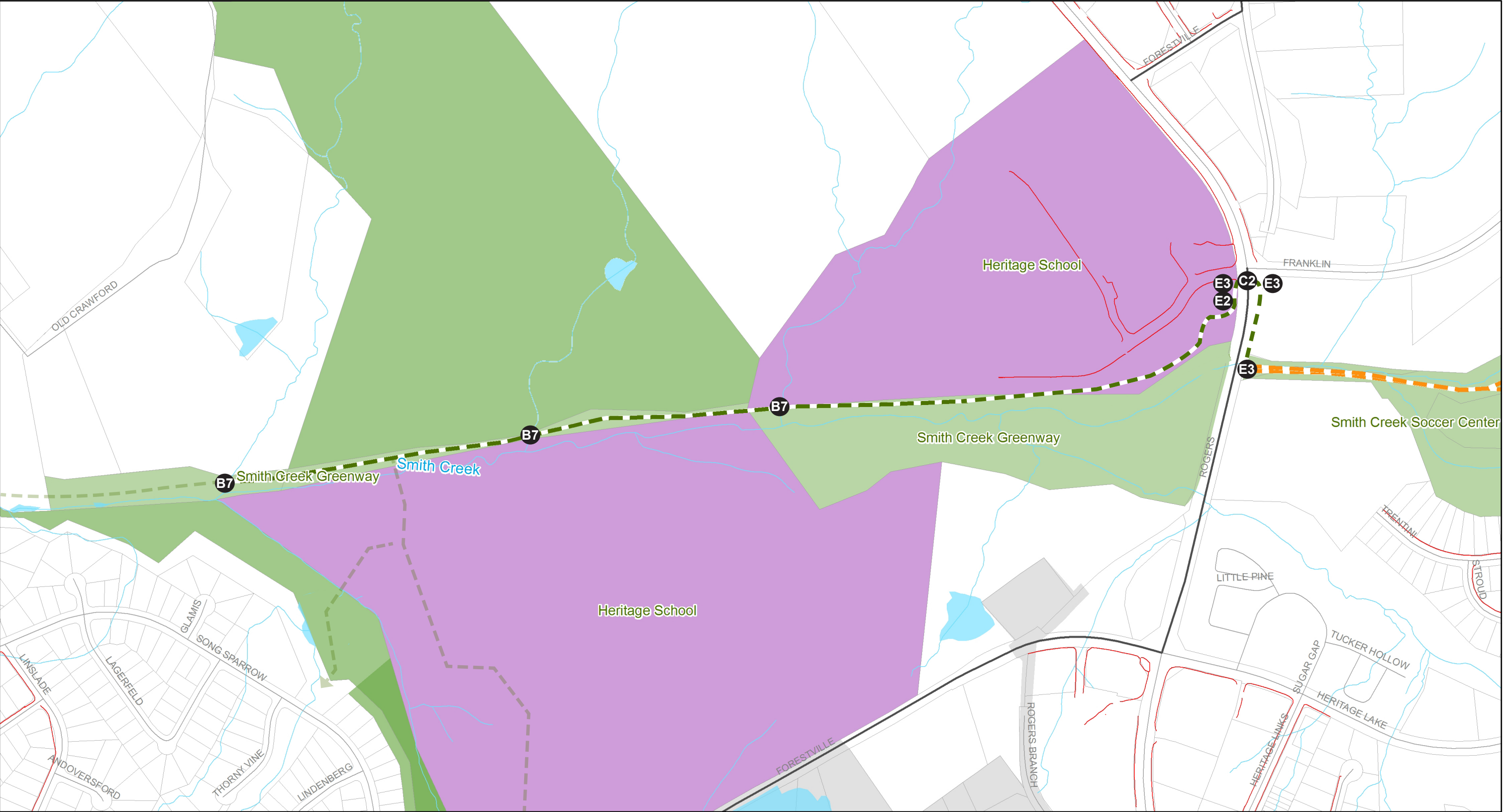
SMITH CREEK CORRIDOR

(From (From Rogers Road to Sanford Creek)

Map Key

A	Demolition	Quantity	Cost	Unit	Subtotal
A1	Clearing and grubbing understory (20' wide)	0	\$0.25	sf	\$0.00
A2	Dumping Fees @ 6% of Demolition total			6%	\$0.00
				Subtotal	\$0.00
	Site Development	Quantity	Cost	Unit	Subtotal
B	Off-Road Facility (6,335 lf)				
B1	Temporary tree protection/silt fence (both sides)	10,560	\$2.00	lf	\$21,120.00
B2	Trail grading (0-5 cu ft/lf)	5,280	\$3.30	lf	\$17,424.00
B3	10' wide multi-use asphalt trail	5,280	\$50.00	lf	\$264,000.00
B4	2' wide gravel shoulder (both sides)	10,560	\$6.60	lf	\$69,696.00
B5	Wooden or recycled synthetic material boardwalk	0	\$250.00	lf	\$0.00
B6	Small Bike/Ped Bridge	0	\$1,350.00	lf	\$0.00
B7	Drainage culvert (36" reinforced concrete pipe)	60	\$44.00	lf	\$2,640.00
B8	Seeding or mulching trail edges (5' both sides)	52,800	\$0.13	sf	\$6,864.00
B9	Geotextile fabric	5,280	\$1.50	lf	\$7,920.00
C	On-Road Facility				
C1	Crosswalk: Striping (High Visibility Paint)	0	\$1.60	lf	\$0.00
C2	Crosswalk: Striping (High Visibility Thermo)(4)	340	\$4.80	lf	\$1,632.00
C3	Ped-activated overhead warning lights	0	Unknown	ea	\$0.00
C4	Median pedestrian refuge island	0	Unknown	ea	\$0.00
D	Utilities				
D1	Solar powered light	0	\$5,900.00	ea	\$0.00
D2	Solar powered light pole	0	\$1,420.00	ea	\$0.00
D3	Emergency phones	0	\$2,730.00	ea	\$0.00
E	Signage				
E1	Mile Markers	2	\$220.00	ea	\$440.00
E2	Trail and street regulatory/warning signs	1	\$220.00	ea	\$220.00
E3	Directional signs	3	\$220.00	ea	\$660.00
E4	Educational signs	1	\$330.00	ea	\$330.00
F	Site Amenities				
F1	Benches (2 per mile recommended)	2	\$900.00	ea	\$1,800.00
F2	Bicycle rack (at trailheads)	0	\$225.00	ea	\$0.00
F3	Drinking fountains, with pet fountain (1/mile)	1	\$2,000.00	ea	\$2,000.00
F4	Picnic tables/ tables (at trailheads)	0	\$550.00	ea	\$0.00
F5	Trash receptacles (32-gallon, steel)(at trailheads)	0	\$300.00	ea	\$0.00
F6	Bollards (2 per trail/road intersection)	4	\$600.00	ea	\$2,400.00
F7	Parking (10-car lot)(at trailheads)	0	\$22,000.00	ea	\$0.00
F8	Parking (20-car lot)(at trailheads)	0	\$55,000.00	ea	\$0.00
				Subtotal	\$399,146.00
G	Design	Quantity	Cost	Unit	Subtotal
G1	Wetlands Delination	5,280	\$1.00	lf	\$5,280.00
G2	Geotechnical Testing	5,280	\$3.00	lf	\$15,840.00
G3	Construction Documents @ 12 % of Dev. Cost			12%	\$47,897.52
				Subtotal	\$69,017.52
	Subtotals				
A	Demolition				\$0.00
B	Off-Road Facility				\$389,664.00
C	On-Road Facility				\$1,632.00
D	Utilities				\$0.00
E	Signage				\$1,650.00
F	Site Amenities				\$6,200.00
G	Design				\$69,017.52
	SUBTOTAL				\$468,163.52
	Contingency (15% of total)			15%	\$70,224.53
	TOTAL				\$538,388.05

Note: Does not include the following: land acquisition, potential rock and unsuitable soils excavation, permitting fees, mobilization, and taxes.



A1 Site Development Item (See map key column in cost estimate table)

- | | | |
|---------------------------|--------------|-----------------|
| ✱ Existing Ped. Underpass | — Major Road | Water Body |
| — Cut-sheet Trail Segment | — Local Road | Park/Open Space |
| — Existing Greenway Trail | — Railroad | School |
| — Existing Sidewalks | — Hydrology | Parcels |
| — Other Proposed Trails | | |

COST ESTIMATE FOR CUT SHEET

5

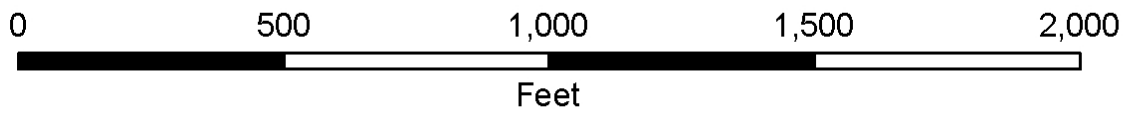
SMITH CREEK CORRIDOR

(From Sanford Creek to Ligon Mill)

Map Key

A	Demolition	Quantity	Cost	Unit	Subtotal
A1	Clearing and grubbing understory (20' wide)	0	\$0.25	sf	\$0.00
A2	Dumping Fees @ 6% of Demolition total			6%	\$0.00
				Subtotal	\$0.00
	Site Development	Quantity	Cost	Unit	Subtotal
B	Off-Road Facility (6,335 lf)				
B1	Temporary tree protection/silt fence (both sides)	6,640	\$2.00	lf	\$13,280.00
B2	Trail grading (0-5 cu ft/lf)	3,320	\$3.30	lf	\$10,956.00
B3	10' wide multi-use asphalt trail	3,320	\$50.00	lf	\$166,000.00
B4	2' wide gravel shoulder (both sides)	6,640	\$6.60	lf	\$43,824.00
B5	Wooden or recycled synthetic material boardwalk	1,500	\$250.00	lf	\$375,000.00
B6	Small Bike/Ped Bridge (possibly 2 needed)	0	\$1,350.00	lf	\$0.00
B7	Drainage culvert (36" reinforced concrete pipe)	0	\$44.00	lf	\$0.00
B8	Seeding or mulching trail edges (5' both sides)	33,200	\$0.13	sf	\$4,316.00
B9	Geotextile fabric	3,320	\$1.50	lf	\$4,980.00
C	On-Road Facility				
C1	Crosswalk: Striping (High Visibility Paint)	0	\$1.60	lf	\$0.00
C2	Crosswalk: Striping (High Visibility Thermo)	28	\$4.80	lf	\$134.40
C3	Ped-activated overhead warning lights	1	Unknown	ea	\$0.00
C4	Median pedestrian refuge island	0	Unknown	ea	\$0.00
D	Utilities				
D1	Solar powered light	0	\$5,900.00	ea	\$0.00
D2	Solar powered light pole	0	\$1,420.00	ea	\$0.00
D3	Emergency phones	0	\$2,730.00	ea	\$0.00
E	Signage				
E1	Mile Markers	1	\$220.00	ea	\$220.00
E2	Trail and street regulatory/warning signs	1	\$220.00	ea	\$220.00
E3	Directional signs	2	\$220.00	ea	\$440.00
E4	Educational signs	0	\$330.00	ea	\$0.00
F	Site Amenities				
F1	Benches (2 per mile recommended)	2	\$900.00	ea	\$1,800.00
F2	Bicycle rack (at trailheads)	0	\$225.00	ea	\$0.00
F3	Drinking fountains, with pet fountain (1/mile)	1	\$2,000.00	ea	\$2,000.00
F4	Picnic tables/ tables (at trailheads)	0	\$550.00	ea	\$0.00
F5	Trash receptacles (32-gallon, steel)(at trailheads)	0	\$300.00	ea	\$0.00
F6	Bollards (2 per trail/road intersection)	2	\$600.00	ea	\$1,200.00
F7	Parking (10-car lot)(at trailheads)	0	\$22,000.00	ea	\$0.00
F8	Parking (20-car lot)(at trailheads)	0	\$55,000.00	ea	\$0.00
				Subtotal	\$624,370.40
G	Design	Quantity	Cost	Unit	Subtotal
G1	Wetlands Deliniation	3,320	\$1.00	lf	\$3,320.00
G2	Geotechnical Testing	3,320	\$3.00	lf	\$9,960.00
G3	Construction Documents @ 12 % of Dev. Cost			12%	\$74,924.45
				Subtotal	\$88,204.45
	Subtotals				
A	Demolition				\$0.00
B	Off-Road Facility				\$618,356.00
C	On-Road Facility				\$134.40
D	Utilities				\$0.00
E	Signage				\$880.00
F	Site Amenities				\$5,000.00
G	Design				\$88,204.45
	SUBTOTAL				\$712,574.85
	Contingency (15% of total)			15%	\$106,886.23
	TOTAL				\$819,461.08

Note: Does not include the following: land acquisition, potential rock and unsuitable soils excavation, permitting fees, mobilization, and taxes.



A1 Site Development Item (See map key column in cost estimate table)

- | | | |
|-------------------------|------------|-----------------|
| Existing Ped. Underpass | Major Road | Water Body |
| Cut-sheet Trail Segment | Local Road | Park/Open Space |
| Existing Greenway Trail | Railroad | School |
| Existing Sidewalks | Hydrology | Parcels |
| Other Proposed Trails | | |

COST ESTIMATE FOR CUT SHEET

6

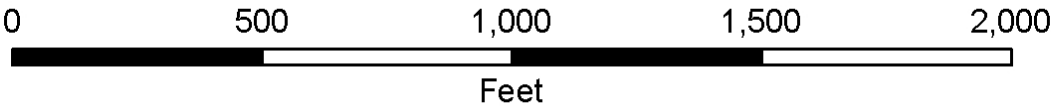
SMITH CREEK CORRIDOR

(From From Ligon Mill to Burlington Mill)

Map Key

A	Demolition	Quantity	Cost	Unit	Subtotal
A1	Clearing and grubbing understory (20' wide)	0	\$0.25	sf	\$0.00
A2	Dumping Fees @ 6% of Demolition total			6%	\$0.00
				Subtotal	\$0.00
	Site Development	Quantity	Cost	Unit	Subtotal
B	Off-Road Facility (6,335 lf)				
B1	Temporary tree protection/silt fence (both sides)	9,900	\$2.00	lf	\$19,800.00
B2	Trail grading (0-5 cu ft/lf)	4,950	\$3.30	lf	\$16,335.00
B3	10' wide multi-use asphalt trail	4,950	\$50.00	lf	\$247,500.00
B4	2' wide gravel shoulder (both sides)	9,900	\$6.60	lf	\$65,340.00
B5	Wooden or recycled synthetic material boardwalk	0	\$250.00	lf	\$0.00
B6	Small Bike/Ped Bridge	0	\$1,350.00	lf	\$0.00
B7	Drainage culvert (36" reinforced concrete pipe)	0	\$44.00	lf	\$0.00
B8	Seeding or mulching trail edges (5' both sides)	49,500	\$0.13	sf	\$6,435.00
B9	Geotextile fabric	4,950	\$1.50	lf	\$7,425.00
C	On-Road Facility				
C1	Crosswalk: Striping (High Visibility Paint)	0	\$1.60	lf	\$0.00
C2	Crosswalk: Striping (High Visibility Thermo)	24	\$4.80	lf	\$115.20
C3	Ped-activated overhead warning lights	1	Unknown	ea	\$0.00
C4	Median pedestrian refuge island	1	Unknown	ea	\$0.00
D	Utilities				
D1	Solar powered light	0	\$5,900.00	ea	\$0.00
D2	Solar powered light pole	0	\$1,420.00	ea	\$0.00
D3	Emergency phones	0	\$2,730.00	ea	\$0.00
E	Signage				
E1	Mile Markers	1	\$220.00	ea	\$220.00
E2	Trail and street regulatory/warning signs	2	\$220.00	ea	\$440.00
E3	Directional signs	1	\$220.00	ea	\$220.00
E4	Educational signs	0	\$330.00	ea	\$0.00
F	Site Amenities				
F1	Benches (2 per mile recommended)	2	\$900.00	ea	\$1,800.00
F2	Bicycle rack (at trailheads)	0	\$225.00	ea	\$0.00
F3	Drinking fountains, with pet fountain (1/mile)	1	\$2,000.00	ea	\$2,000.00
F4	Picnic tables/ tables (at trailheads)	0	\$550.00	ea	\$0.00
F5	Trash receptacles (32-gallon, steel)(at trailheads)	0	\$300.00	ea	\$0.00
F6	Bollards (2 per trail/road intersection)	4	\$600.00	ea	\$2,400.00
F7	Parking (10-car lot)(at trailheads)	0	\$22,000.00	ea	\$0.00
F8	Parking (20-car lot)(at trailheads)	0	\$55,000.00	ea	\$0.00
				Subtotal	\$370,030.20
G	Design	Quantity	Cost	Unit	Subtotal
G1	Wetlands Deliniation	4,950	\$1.00	lf	\$4,950.00
G2	Geotechnical Testing	4,950	\$3.00	lf	\$14,850.00
G3	Construction Documents @ 12 % of Dev. Cost			12%	\$44,403.62
				Subtotal	\$64,203.62
	Subtotals				
A	Demolition				\$0.00
B	Off-Road Facility				\$362,835.00
C	On-Road Facility				\$115.20
D	Utilities				\$0.00
E	Signage				\$880.00
F	Site Amenities				\$6,200.00
G	Design				\$64,203.62
	SUBTOTAL				\$434,233.82
	Contingency (15% of total)			15%	\$65,135.07
	TOTAL				\$499,368.90

Note: Does not include the following: land acquisition, potential rock and unsuitable soils excavation, permitting fees, mobilization, and taxes.



A1 Site Development Item (See map key column in cost estimate table)

- | | | |
|-------------------------|------------|-----------------|
| Existing Ped. Underpass | Major Road | Water Body |
| Cut-sheet Trail Segment | Local Road | Park/Open Space |
| Existing Greenway Trail | Railroad | School |
| Existing Sidewalks | Hydrology | Parcels |
| Other Proposed Trails | | |

COST ESTIMATE FOR CUT SHEET

7

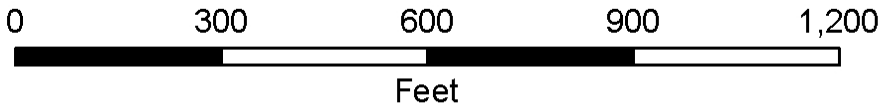
RICHLAND CREEK CORRIDOR

(From Wake Forest Town Limits to N. End of Olde Mill Stream Greenway)

Map Key

A	Demolition	Quantity	Cost	Unit	Subtotal
A1	Clearing and grubbing understory (20' wide)	0	\$0.25	sf	\$0.00
A2	Dumping Fees @ 6% of Demolition total			6%	\$0.00
				Subtotal	\$0.00
	Site Development	Quantity	Cost	Unit	Subtotal
B	Off-Road Facility (6,335 lf)				
B1	Temporary tree protection/silt fence (both sides)	9,200	\$2.00	lf	\$18,400.00
B2	Trail grading (0-5 cu ft/lf)	4,600	\$3.30	lf	\$15,180.00
B3	10' wide multi-use asphalt trail	4,600	\$50.00	lf	\$230,000.00
B4	2' wide gravel shoulder (both sides)	9,200	\$6.60	lf	\$60,720.00
B5	Wooden or recycled synthetic material boardwalk	0	\$250.00	lf	\$0.00
B6	Small Bike/Ped Bridge	0	\$1,350.00	lf	\$0.00
B7	Drainage culvert (36" reinforced concrete pipe)	0	\$44.00	lf	\$0.00
B8	Seeding or mulching trail edges (5' both sides)	46,000	\$0.13	sf	\$5,980.00
B9	Geotextile fabric	4,600	\$1.50	lf	\$6,900.00
C	On-Road Facility				
C1	Crosswalk: Striping (High Visibility Paint)	0	\$1.60	lf	\$0.00
C2	Crosswalk: Striping (High Visibility Thermo)	0	\$4.80	lf	\$0.00
C3	Ped-activated overhead warning lights	0	Unknown	ea	\$0.00
C4	Median pedestrian refuge island	0	Unknown	ea	\$0.00
D	Utilities				
D1	Solar powered light	0	\$5,900.00	ea	\$0.00
D2	Solar powered light pole	0	\$1,420.00	ea	\$0.00
D3	Emergency phones	0	\$2,730.00	ea	\$0.00
E	Signage				
E1	Mile Markers	1	\$220.00	ea	\$220.00
E2	Trail and street regulatory/warning signs	0	\$220.00	ea	\$0.00
E3	Directional signs	1	\$220.00	ea	\$220.00
E4	Educational signs	0	\$330.00	ea	\$0.00
F	Site Amenities				
F1	Benches (2 per mile recommended)	2	\$900.00	ea	\$1,800.00
F2	Bicycle rack (at trailheads)	0	\$225.00	ea	\$0.00
F3	Drinking fountains, with pet fountain (1/mile)	1	\$2,000.00	ea	\$2,000.00
F4	Picnic tables/ tables (at trailheads)	0	\$550.00	ea	\$0.00
F5	Trash receptacles (32-gallon, steel)(at trailheads)	0	\$300.00	ea	\$0.00
F6	Bollards (2 per trail/road intersection)	0	\$600.00	ea	\$0.00
F7	Parking (10-car lot)(at trailheads)	0	\$22,000.00	ea	\$0.00
F8	Parking (20-car lot)(at trailheads)	0	\$55,000.00	ea	\$0.00
				Subtotal	\$341,420.00
G	Design	Quantity	Cost	Unit	Subtotal
G1	Wetlands Deliniation	4,600	\$1.00	lf	\$4,600.00
G2	Geotechnical Testing	4,600	\$3.00	lf	\$13,800.00
G3	Construction Documents @ 12 % of Dev. Cost			12%	\$40,970.40
				Subtotal	\$59,370.40
	Subtotals				
A	Demolition				\$0.00
B	Off-Road Facility				\$337,180.00
C	On-Road Facility				\$0.00
D	Utilities				\$0.00
E	Signage				\$440.00
F	Site Amenities				\$3,800.00
G	Design				\$59,370.40
	SUBTOTAL				\$400,790.40
	Contingency (15% of total)			15%	\$60,118.56
	TOTAL				\$460,908.96

Note: Does not include the following: land acquisition, potential rock and unsuitable soils excavation, permitting fees, mobilization, and taxes.



A1 Site Development Item (See map key column in cost estimate table)

- | | | |
|-------------------------|------------|-----------------|
| Existing Ped. Underpass | Major Road | Water Body |
| Cut-sheet Trail Segment | Local Road | Park/Open Space |
| Existing Greenway Trail | Railroad | School |
| Existing Sidewalks | Hydrology | Parcels |
| Other Proposed Trails | | |

COST ESTIMATE FOR CUT SHEET

8

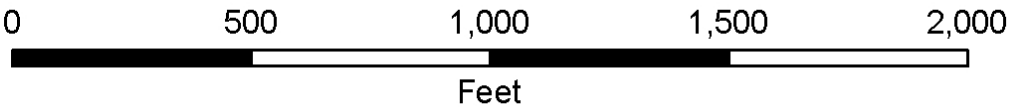
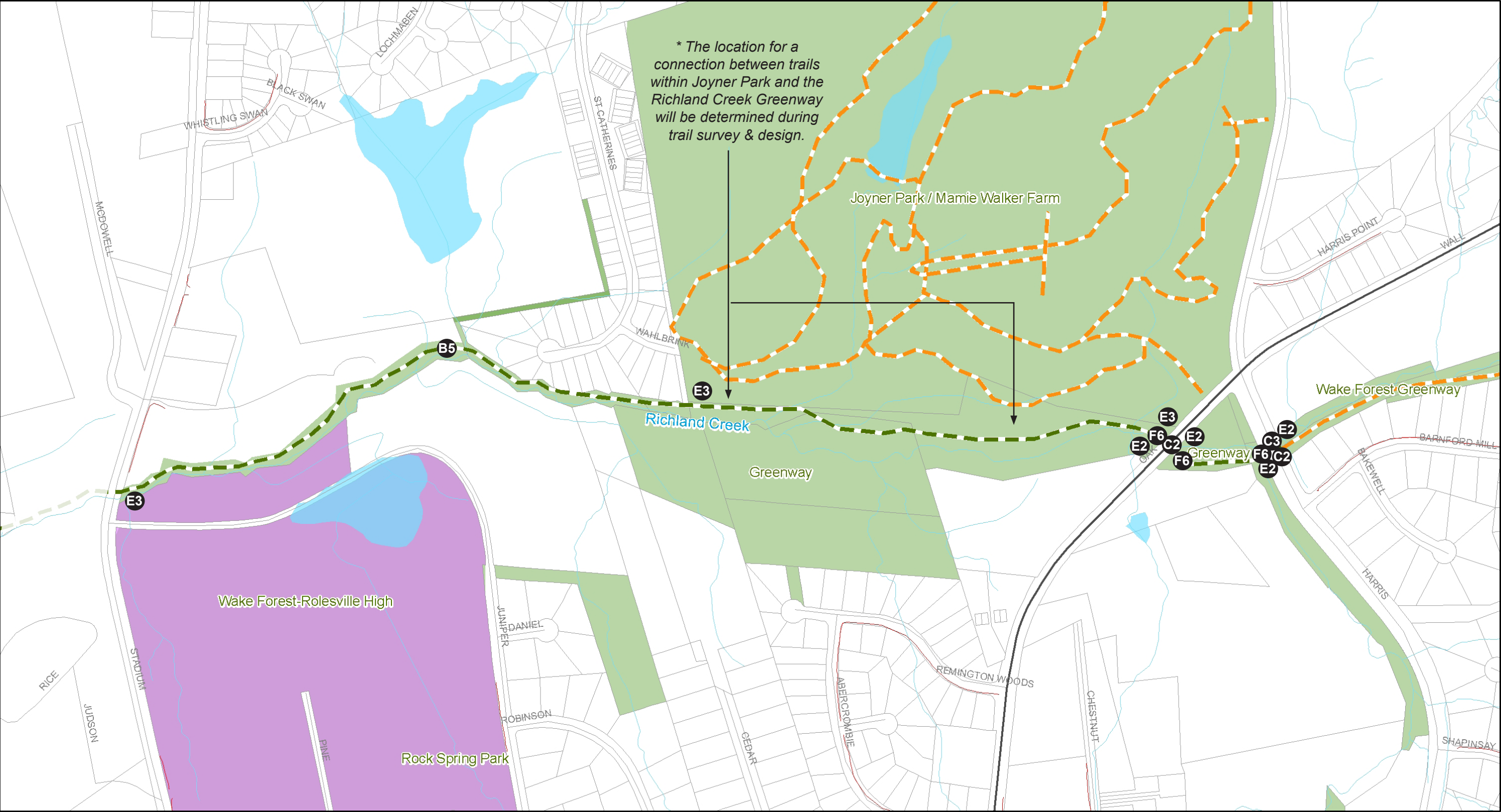
RICHLAND CREEK CORRIDOR

(From Harris Road to Stadium Drive)

Map Key

A	Demolition	Quantity	Cost	Unit	Subtotal
A1	Clearing and grubbing understory (20' wide)	0	\$0.25	sf	\$0.00
A2	Dumping Fees @ 6% of Demolition total			6%	\$0.00
				Subtotal	\$0.00
	Site Development	Quantity	Cost	Unit	Subtotal
B	Off-Road Facility (6,335 lf)				
B1	Temporary tree protection/silt fence (both sides)	8,400	\$2.00	lf	\$16,800.00
B2	Trail grading (0-5 cu ft/lf)	4,200	\$3.30	lf	\$13,860.00
B3	10' wide multi-use asphalt trail	4,200	\$50.00	lf	\$210,000.00
B4	2' wide gravel shoulder (both sides)	8,400	\$6.60	lf	\$55,440.00
B5	Wooden or recycled synthetic material boardwalk	1,000	\$250.00	lf	\$250,000.00
B6	Small Bike/Ped Bridge	0	\$1,350.00	lf	\$0.00
B7	Drainage culvert (36" reinforced concrete pipe)	0	\$44.00	lf	\$0.00
B8	Seeding or mulching trail edges (5' both sides)	42,000	\$0.13	sf	\$5,460.00
B9	Geotextile fabric	4,200	\$1.50	lf	\$6,300.00
C	On-Road Facility				
C1	Crosswalk: Striping (High Visibility Paint)	0	\$1.60	lf	\$0.00
C2	Crosswalk: Striping (High Visibility Thermo) (2)	48	\$4.80	lf	\$230.40
C3	Ped-activated overhead warning lights	1	Unknown	ea	\$0.00
C4	Median pedestrian refuge island	0	Unknown	ea	\$0.00
D	Utilities				
D1	Solar powered light	0	\$5,900.00	ea	\$0.00
D2	Solar powered light pole	0	\$1,420.00	ea	\$0.00
D3	Emergency phones	0	\$2,730.00	ea	\$0.00
E	Signage				
E1	Mile Markers	1	\$220.00	ea	\$220.00
E2	Trail and street regulatory/warning signs	4	\$220.00	ea	\$880.00
E3	Directional signs	2	\$220.00	ea	\$440.00
E4	Educational signs	1	\$330.00	ea	\$330.00
F	Site Amenities				
F1	Benches (2 per mile recommended)	2	\$900.00	ea	\$1,800.00
F2	Bicycle rack (at trailheads)	0	\$225.00	ea	\$0.00
F3	Drinking fountains, with pet fountain (1/mile)	1	\$2,000.00	ea	\$2,000.00
F4	Picnic tables/ tables (at trailheads)	0	\$550.00	ea	\$0.00
F5	Trash receptacles (32-gallon, steel)(at trailheads)	0	\$300.00	ea	\$0.00
F6	Bollards (2 per trail/road intersection)	4	\$600.00	ea	\$2,400.00
F7	Parking (10-car lot)(at trailheads)	0	\$22,000.00	ea	\$0.00
F8	Parking (20-car lot)(at trailheads)	0	\$55,000.00	ea	\$0.00
				Subtotal	\$566,160.40
G	Design	Quantity	Cost	Unit	Subtotal
G1	Wetlands Deliniation	4,200	\$1.00	lf	\$4,200.00
G2	Geotechnical Testing	4,200	\$3.00	lf	\$12,600.00
G3	Construction Documents @ 12 % of Dev. Cost			12%	\$67,939.25
				Subtotal	\$84,739.25
	Subtotals				
A	Demolition				\$0.00
B	Off-Road Facility				\$557,860.00
C	On-Road Facility				\$230.40
D	Utilities				\$0.00
E	Signage				\$1,870.00
F	Site Amenities				\$6,200.00
G	Design				\$84,739.25
	SUBTOTAL				\$650,899.65
	Contingency (15% of total)			15%	\$97,634.95
	TOTAL				\$748,534.60

Note: Does not include the following: land acquisition, potential rock and unsuitable soils excavation, permitting fees, mobilization, and taxes. Cost estimate for routing trail underneath Staduim Drive also not included.



A1 Site Development Item (See map key column in cost estimate table)

- | | | |
|---------------------------|--------------|-----------------|
| ✪ Existing Ped. Underpass | — Major Road | Water Body |
| — Cut-sheet Trail Segment | — Local Road | Park/Open Space |
| — Existing Greenway Trail | — Railroad | School |
| — Existing Sidewalks | — Hydrology | Parcels |
| — Other Proposed Trails | | |

COST ESTIMATE FOR CUT SHEET

9

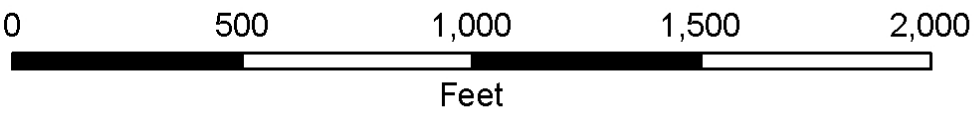
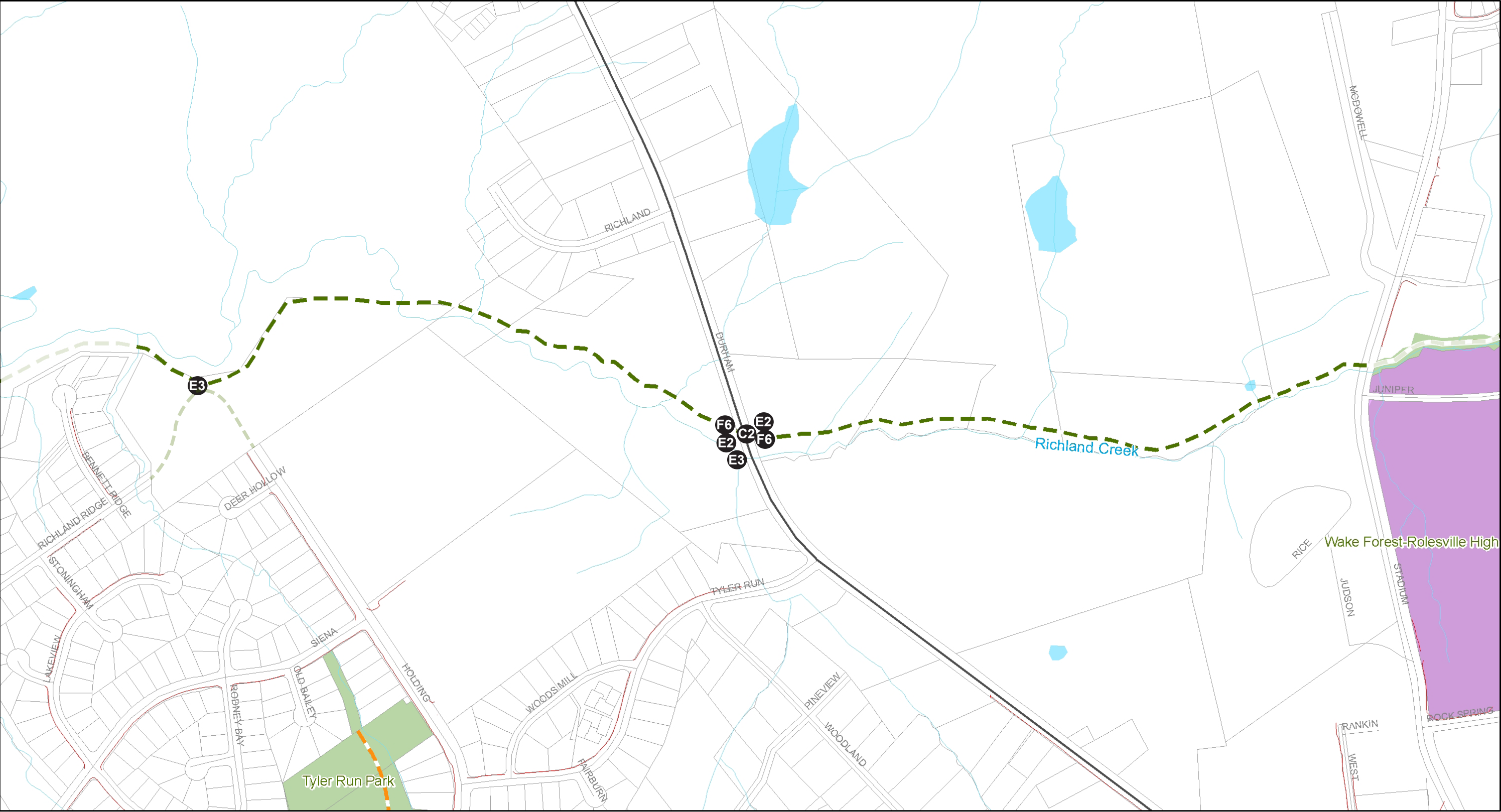
RICHLAND CREEK CORRIDOR

(From Stadium Drive to Bennet Park Neighborhood)

Map Key

A	Demolition	Quantity	Cost	Unit	Subtotal
A1	Clearing and grubbing understory (20' wide)	0	\$0.25	sf	\$0.00
A2	Dumping Fees @ 6% of Demolition total			6%	\$0.00
				Subtotal	\$0.00
	Site Development	Quantity	Cost	Unit	Subtotal
B	Off-Road Facility (6,335 lf)				
B1	Temporary tree protection/silt fence (both sides)	12,350	\$2.00	lf	\$24,700.00
B2	Trail grading (0-5 cu ft/lf)	6,175	\$3.30	lf	\$20,377.50
B3	10' wide multi-use asphalt trail	6,175	\$50.00	lf	\$308,750.00
B4	2' wide gravel shoulder (both sides)	12,350	\$6.60	lf	\$81,510.00
B5	Wooden or recycled synthetic material boardwalk	0	\$250.00	lf	\$0.00
B6	Small Bike/Ped Bridge	0	\$1,350.00	lf	\$0.00
B7	Drainage culvert (36" reinforced concrete pipe)	0	\$44.00	lf	\$0.00
B8	Seeding or mulching trail edges (5' both sides)	61,750	\$0.13	sf	\$8,027.50
B9	Geotextile fabric	6,175	\$1.50	lf	\$9,262.50
C	On-Road Facility				
C1	Crosswalk: Striping (High Visibility Paint)	0	\$1.60	lf	\$0.00
C2	Crosswalk: Striping (High Visibility Thermo)	24	\$4.80	lf	\$115.20
C3	Ped-activated overhead warning lights	0	Unknown	ea	\$0.00
C4	Median pedestrian refuge island	0	Unknown	ea	\$0.00
D	Utilities				
D1	Solar powered light	0	\$5,900.00	ea	\$0.00
D2	Solar powered light pole	0	\$1,420.00	ea	\$0.00
D3	Emergency phones	0	\$2,730.00	ea	\$0.00
E	Signage				
E1	Mile Markers	1	\$220.00	ea	\$220.00
E2	Trail and street regulatory/warning signs	2	\$220.00	ea	\$440.00
E3	Directional signs	2	\$220.00	ea	\$440.00
E4	Educational signs	0	\$330.00	ea	\$0.00
F	Site Amenities				
F1	Benches (2 per mile recommended)	2	\$900.00	ea	\$1,800.00
F2	Bicycle rack (at trailheads)	0	\$225.00	ea	\$0.00
F3	Drinking fountains, with pet fountain (1/mile)	1	\$2,000.00	ea	\$2,000.00
F4	Picnic tables/ tables (at trailheads)	0	\$550.00	ea	\$0.00
F5	Trash receptacles (32-gallon, steel)(at trailheads)	0	\$300.00	ea	\$0.00
F6	Bollards (2 per trail/road intersection)	2	\$600.00	ea	\$1,200.00
F7	Parking (10-car lot)(at trailheads)	0	\$22,000.00	ea	\$0.00
F8	Parking (20-car lot)(at trailheads)	0	\$55,000.00	ea	\$0.00
				Subtotal	\$458,842.70
G	Design	Quantity	Cost	Unit	Subtotal
G1	Wetlands Deliniation	6,175	\$1.00	lf	\$6,175.00
G2	Geotechnical Testing	6,175	\$3.00	lf	\$18,525.00
G3	Construction Documents @ 12 % of Dev. Cost			12%	\$55,061.12
				Subtotal	\$79,761.12
	Subtotals				
A	Demolition				\$0.00
B	Off-Road Facility				\$452,627.50
C	On-Road Facility				\$115.20
D	Utilities				\$0.00
E	Signage				\$1,100.00
F	Site Amenities				\$5,000.00
G	Design				\$79,761.12
	SUBTOTAL				\$538,603.82
	Contingency (15% of total)			15%	\$80,790.57
	TOTAL				\$619,394.40

Note: Does not include the following: land acquisition, potential rock and unsuitable soils excavation, permitting fees, mobilization, and taxes.



A1 Site Development Item (See map key column in cost estimate table)

- | | | |
|-------------------------|------------|-----------------|
| Existing Ped. Underpass | Major Road | Water Body |
| Cut-sheet Trail Segment | Local Road | Park/Open Space |
| Existing Greenway Trail | Railroad | School |
| Existing Sidewalks | Hydrology | Parcels |
| Other Proposed Trails | | |

COST ESTIMATE FOR CUT SHEET

10

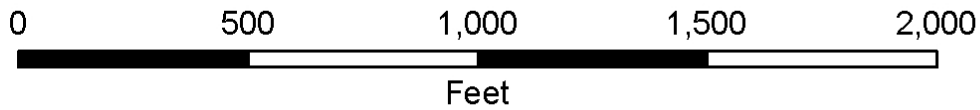
RICHLAND CREEK CORRIDOR

(From Bennet Park Neighborhood to Villas at Caveness Farms)

Map Key

A	Demolition	Quantity	Cost	Unit	Subtotal
A1	Clearing and grubbing understory (20' wide)	0	\$0.25	sf	\$0.00
A2	Dumping Fees @ 6% of Demolition total			6%	\$0.00
				Subtotal	\$0.00
	Site Development	Quantity	Cost	Unit	Subtotal
B	Off-Road Facility (6,335 lf)				
B1	Temporary tree protection/silt fence (both sides)	9,600	\$2.00	lf	\$19,200.00
B2	Trail grading (0-5 cu ft/lf)	4,800	\$3.30	lf	\$15,840.00
B3	10' wide multi-use asphalt trail	4,800	\$50.00	lf	\$240,000.00
B4	2' wide gravel shoulder (both sides)	9,600	\$6.60	lf	\$63,360.00
B5	Wooden or recycled synthetic material boardwalk	1,000	\$250.00	lf	\$250,000.00
B6	Small Bike/Ped Bridge	0	\$1,350.00	lf	\$0.00
B7	Drainage culvert (36" reinforced concrete pipe)	0	\$44.00	lf	\$0.00
B8	Seeding or mulching trail edges (5' both sides)	48,000	\$0.13	sf	\$6,240.00
B9	Geotextile fabric	4,800	\$1.50	lf	\$7,200.00
C	On-Road Facility				
C1	Crosswalk: Striping (High Visibility Paint)	0	\$1.60	lf	\$0.00
C2	Crosswalk: Striping (High Visibility Thermo)	0	\$4.80	lf	\$0.00
C3	Ped-activated overhead warning lights	0	Unknown	ea	\$0.00
C4	Median pedestrian refuge island	0	Unknown	ea	\$0.00
D	Utilities				
D1	Solar powered light	0	\$5,900.00	ea	\$0.00
D2	Solar powered light pole	0	\$1,420.00	ea	\$0.00
D3	Emergency phones	0	\$2,730.00	ea	\$0.00
E	Signage				
E1	Mile Markers	1	\$220.00	ea	\$220.00
E2	Trail and street regulatory/warning signs	0	\$220.00	ea	\$0.00
E3	Directional signs	2	\$220.00	ea	\$440.00
E4	Educational signs	0	\$330.00	ea	\$0.00
F	Site Amenities				
F1	Benches (2 per mile recommended)	2	\$900.00	ea	\$1,800.00
F2	Bicycle rack (at trailheads)	0	\$225.00	ea	\$0.00
F3	Drinking fountains, with pet fountain (1/mile)	1	\$2,000.00	ea	\$2,000.00
F4	Picnic tables/ tables (at trailheads)	0	\$550.00	ea	\$0.00
F5	Trash receptacles (32-gallon, steel)(at trailheads)	0	\$300.00	ea	\$0.00
F6	Bollards (2 per trail/road intersection)	0	\$600.00	ea	\$0.00
F7	Parking (10-car lot)(at trailheads)	0	\$22,000.00	ea	\$0.00
F8	Parking (20-car lot)(at trailheads)	0	\$55,000.00	ea	\$0.00
				Subtotal	\$606,300.00
G	Design	Quantity	Cost	Unit	Subtotal
G1	Wetlands Deliniation	4,800	\$1.00	lf	\$4,800.00
G2	Geotechnical Testing	4,800	\$3.00	lf	\$14,400.00
G3	Construction Documents @ 12 % of Dev. Cost			12%	\$72,756.00
				Subtotal	\$91,956.00
	Subtotals				
A	Demolition				\$0.00
B	Off-Road Facility				\$601,840.00
C	On-Road Facility				\$0.00
D	Utilities				\$0.00
E	Signage				\$660.00
F	Site Amenities				\$3,800.00
G	Design				\$91,956.00
	SUBTOTAL				\$698,256.00
	Contingency (15% of total)			15%	\$104,738.40
	TOTAL				\$802,994.40

Note: Does not include the following: land acquisition, potential rock and unsuitable soils excavation, permitting fees, mobilization, and taxes. Cost estimate for Capital Blvd (US-1) underpass also not included.



A1 Site Development Item (See map key column in cost estimate table)

- | | | |
|-------------------------|------------|-----------------|
| Existing Ped. Underpass | Major Road | Water Body |
| Cut-sheet Trail Segment | Local Road | Park/Open Space |
| Existing Greenway Trail | Railroad | School |
| Existing Sidewalks | Hydrology | Parcels |
| Other Proposed Trails | | |

COST ESTIMATE FOR CUT SHEET

11

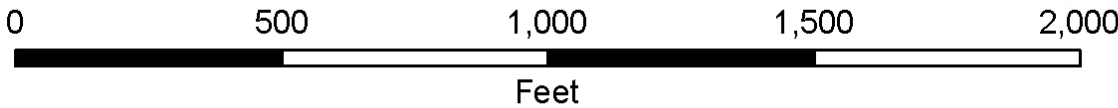
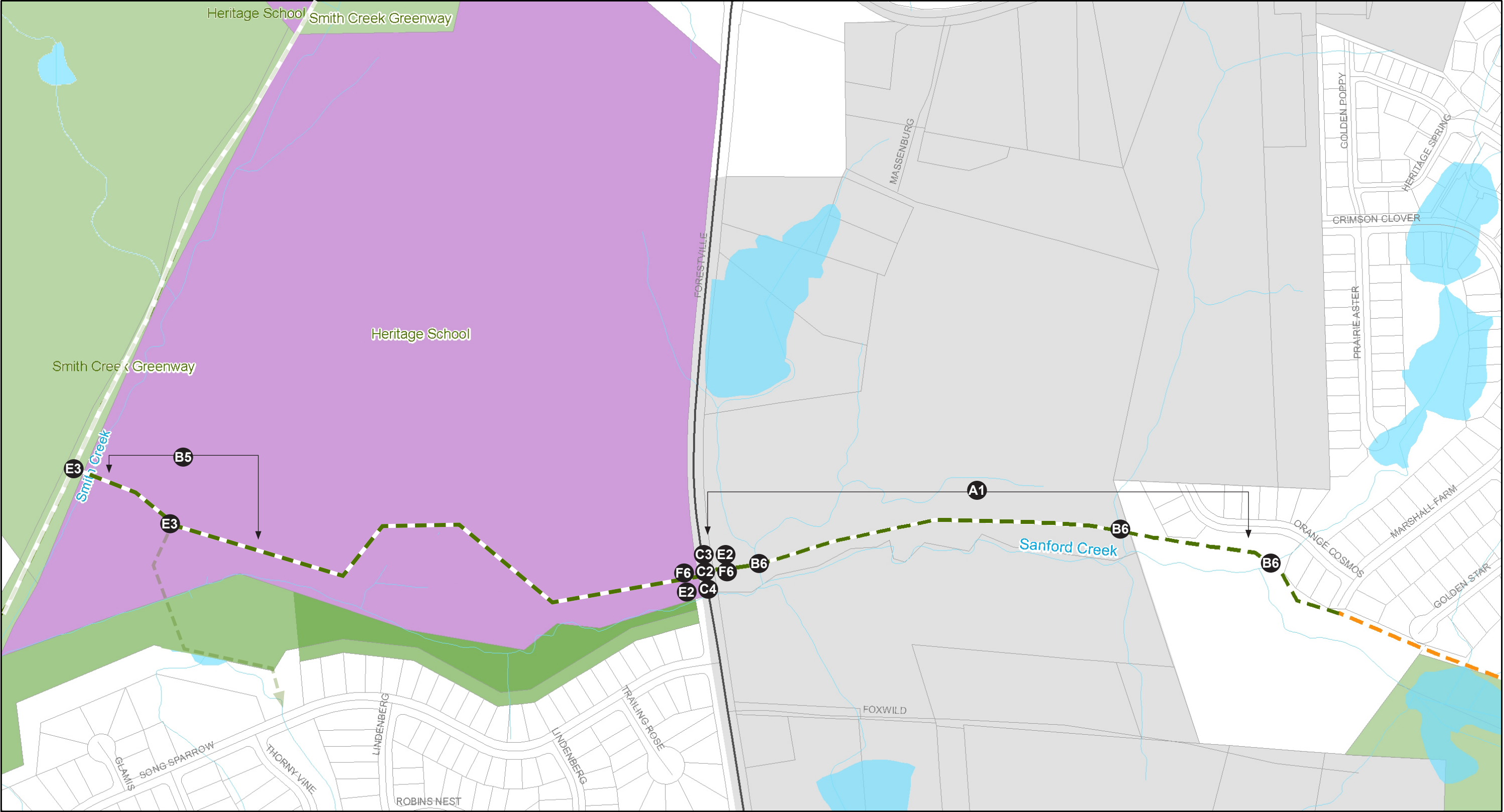
SANFORD CREEK CORRIDOR

(From Smith Creek Greenway to Marshall Farm Road)

Map Key

A	Demolition	Quantity	Cost	Unit	Subtotal
A1	Clearing and grubbing understory (20' wide)	40,000	\$0.25	sf	\$10,000.00
A2	Dumping Fees @ 6% of Demolition total			6%	\$600.00
				Subtotal	\$10,600.00
	Site Development	Quantity	Cost	Unit	Subtotal
B	Off-Road Facility (5,240 lf)				
B1	Temporary tree protection/silt fence (both sides)	9,480	\$2.00	lf	\$18,960.00
B2	Trail grading (0-5 cu ft/lf)	4,740	\$3.30	lf	\$15,642.00
B3	10' wide multi-use asphalt trail	4,740	\$50.00	lf	\$237,000.00
B4	2' wide gravel shoulder (both sides)	9,480	\$6.60	lf	\$62,568.00
B5	Wooden or recycled synthetic material boardwalk	500	\$250.00	lf	\$125,000.00
B6	Small Bike/Ped Bridge (3)	30	\$1,350.00	lf	\$40,500.00
B7	Drainage culvert (36" reinforced concrete pipe)	0	\$44.00	lf	\$0.00
B8	Seeding or mulching trail edges (5' both sides)	47,400	\$0.13	sf	\$6,162.00
B9	Geotextile fabric	4,740	\$1.50	lf	\$7,110.00
C	On-Road Facility				
C1	Crosswalk: Striping (High Visibility Paint)	0	\$1.60	lf	\$0.00
C2	Crosswalk: Striping (High Visibility Thermo)	24	\$4.80	lf	\$115.20
C3	Ped-activated overhead warning lights	1	Unknown	ea	\$0.00
C4	Median pedestrian refuge island	1	Unknown	ea	\$0.00
D	Utilities				
D1	Solar powered light	0	\$5,900.00	ea	\$0.00
D2	Solar powered light pole	0	\$1,420.00	ea	\$0.00
D3	Emergency phones	0	\$2,730.00	ea	\$0.00
E	Signage				
E1	Mile Markers	1	\$220.00	ea	\$220.00
E2	Trail and street regulatory/warning signs	2	\$220.00	ea	\$440.00
E3	Directional signs	2	\$220.00	ea	\$440.00
E4	Educational signs	3	\$330.00	ea	\$990.00
F	Site Amenities				
F1	Benches (2 per mile recommended)	2	\$900.00	ea	\$1,800.00
F2	Bicycle rack (at trailheads)	0	\$225.00	ea	\$0.00
F3	Drinking fountains, with pet fountain (1/mile)	1	\$2,000.00	ea	\$2,000.00
F4	Picnic tables/ tables (at trailheads)	0	\$550.00	ea	\$0.00
F5	Trash receptacles (32-gallon, steel)(at trailheads)	0	\$300.00	ea	\$0.00
F6	Bollards (2 per trail/road intersection)	2	\$600.00	ea	\$1,200.00
F7	Parking (10-car lot)(at trailheads)	0	\$22,000.00	ea	\$0.00
F8	Parking (20-car lot)(at trailheads)	0	\$55,000.00	ea	\$0.00
				Subtotal	\$520,147.20
G	Design	Quantity	Cost	Unit	Subtotal
G1	Wetlands Deliniation	4,740	\$1.00	lf	\$4,740.00
G2	Geotechnical Testing	4,740	\$3.00	lf	\$14,220.00
G3	Construction Documents @ 12 % of Dev. Cost			12%	\$62,417.66
				Subtotal	\$81,377.66
	Subtotals				
A	Demolition				\$10,600.00
B	Off-Road Facility				\$512,942.00
C	On-Road Facility				\$115.20
D	Utilities				\$0.00
E	Signage				\$2,090.00
F	Site Amenities				\$5,000.00
G	Design				\$81,377.66
	SUBTOTAL				\$612,124.86
	Contingency (15% of total)			15%	\$91,818.73
	TOTAL				\$703,943.59

Note: Does not include the following: land acquisition, potential rock and unsuitable soils excavation, permitting fees, mobilization, and taxes.



A1 Site Development Item (See map key column in cost estimate table)

- | | | |
|-------------------------|------------|-----------------|
| Existing Ped. Underpass | Major Road | Water Body |
| Cut-sheet Trail Segment | Local Road | Park/Open Space |
| Existing Greenway Trail | Railroad | School |
| Existing Sidewalks | Hydrology | Parcels |
| Other Proposed Trails | | |

